

SAND AND MUD BAR (BLACKWATER DRAWDOWN BAR SUBTYPE)

Concept: Sand and Mud Bars are communities of soft sediment deposits along rivers, nonforested because of recent deposition, frequent reworking, or frequent scouring. Vegetation generally is sparse or patchy. The Blackwater Drawdown Bar Subtype covers examples on lower shorelines of blackwater rivers, typically dominated by small plants tolerant of prolonged flooding such as *Eragrostis hypnoides*, *Micranthemum umbrosum*, *Juncus repens*, or *Lipocarpa micrantha*.

Distinguishing Features: The Sand and Mud Bar type is distinguished by the combination of occurrence on soft sediments along a river shoreline and lack of a well-developed tree canopy. The Blackwater Drawdown Bar Subtype is distinguished from the Blackwater Sand Bar Subtype by being lower, generally exposed only at very low river levels. The substrate often is finer textured, with appreciable silt or organic matter as well as sand. The vegetation may be sparse but may also consist of dense mats of herbs.

Synonyms: *Eragrostis hypnoides* - *Micranthemum umbrosum* - *Lipocarpa micrantha* - (*Juncus repens*) Herbaceous Vegetation (CEGL004341).

Ecological Systems: Atlantic Coastal Plain Small Blackwater River Floodplain Forest (CES203.249).

Sites: The Blackwater Drawdown Bar Subtype occurs on lower riverbank areas that are exposed only at the lowest water levels. It is well developed only intermittently along the river, where a wide bench or flat exists at the appropriate level. It is not necessarily associated with point bars. It may also occur in backwaters.

Soils: No well-developed soil is present on the bars. The substrate consists of newly deposited or reworked sand or silt.

Hydrology: The Blackwater Drawdown Bar Subtype is intermittently exposed. It may be flooded for long periods during the growing season and may not be exposed at all in wetter years.

Vegetation: The vegetation may be sparse but often is a dense bed of small herbs, many of them annual. Abundant and frequent species include *Eragrostis hypnoides*, *Lipocarpa micrantha*, *Fimbristylis autumnalis*, *Micranthemum umbrosum*, *Lindernia dubia*, *Juncus repens*, *Eleocharis baldwinii*, and on the Waccamaw River, *Sabatia kennedyana*. Other characteristic species include *Fimbristylis perpusilla*, *Helenium flexuosum*, *Gratiola aurea*, *Helanthium tenellum* (*Echinodorus parvulus*), *Oldenlandia boscii*, and *Edrastema* (*Oldenlandia*) *uniflora*. Species of the Blackwater Sand Bar Subtype, such as *Cyperus polystachyos*, *Hypericum walteri*, *Persicaria* spp., *Pluchea camphorata*, *Hypericum mutilum*, and *Hydrocotyle verticillata*, and ruderal species such as *Erectites hieracifolia* and *Digitaria sanguinalis* may be present in small numbers. A wide variety of other species may be present with low frequency.

Range and Abundance: Ranked G2. The abundance of this community is not well known. In North Carolina, well-developed examples are documented only on the Waccamaw River, but the community may be present on other rivers. The synonymized NVC association occurs in Virginia, South Carolina, and possibly Georgia.

Associations and Patterns: The Blackwater Drawdown Bar Subtype occurs as small patches within the banks of the river. It may be bordered by the Blackwater Sand Bar Subtype but otherwise is bordered by Blackwater Bottomland Hardwoods or Cypress–Gum Swamp.

Variation: Variation is not well studied. Patches are heterogeneous at a fine scale and vary substantially from time to time.

Dynamics: The dynamics of the Blackwater Drawdown Bar Subtype are not well known. The large number of annual plants may only germinate when the water is low, and they presumably persist in a seed bank the rest of the time. Being located beneath the river, these areas are subject to the river's current and may be affected by scouring and deposition of new sediment. However, they appear to occur in low-energy flow regimes.

Comments: The boundary between the concept of this subtype, the Blackwater Sand Bar Subtype, and Cypress–Gum Swamp (Blackwater Cove Subtype) needs further clarification.

Rare species: Vascular plants: *Fimbristylis perpusilla*, *Gratiola aurea*, *Helanthium tenellum* (*Echinodorus parvulus*), *Oldenlandia boscii*, and *Sabatia kennedyana*.

References: